

REMARKS

Claims 74-80, 82 and 83 are pending in this application. Claims 75-78 have been amended to correct typographical errors. Claim 81 has been canceled and its subject matter has been incorporated in amended independent claim 79. No new matter has been introduced. Applicant acknowledges with appreciation the allowance of claims 74-78.

Claims 79, 80 and 83 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Chopra et al. (U.S. Patent No. 6,613,671) ("Chopra"). This rejection is respectfully traversed.

The claimed invention relates to an "interconnect structure for a semiconductor die." As such, amended independent claim 79 recites an "interconnect structure for a semiconductor die" comprising "a conductive bond pad containing a copper layer, said copper layer containing a copper oxide layer thereon." Amended independent claim 79 further recites "a titanium-aluminum-copper-nitrogen layer formed over at least an upper surface portion of said copper layer."

Chopra relates to a "conductive connection forming method" that "includes forming a first layer including a first metal on a substrate and forming a second layer including a second metal different from the first metal on the first layer." (Abstract). Chopra teaches that "[a]t least a part of the first layer may be transformed to an alloy material including the first and second metals." (Abstract). Chopra also teaches that "[a]n exemplary first metal includes copper, and an exemplary second metal includes aluminum, titanium, palladium, magnesium, or two or more such metals." (Abstract).

Chopra fails to anticipate the subject matter of claim 79, 80 and 83. Chopra does not disclose "a conductive bond pad containing a copper layer, said copper layer

containing a copper oxide layer thereon" and "a titanium-aluminum-copper-nitrogen layer formed over at least an upper surface portion of said copper layer," as amended independent claim 79 recites. Chopra is silent about a "copper oxide layer" over a copper layer, much less about "a titanium-aluminum-copper-nitrogen layer formed over at least an upper surface portion of said copper layer," as in the claimed invention. For at least these reasons, Chopra fails to anticipate the subject matter of claim 79, 80 and 83, and withdrawal of the rejection of these claims is respectfully requested.

Claims 81 and 82 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Chopra in view of Jang et al. (U.S. Patent No. 6,423,625). This rejection is respectfully traversed.

As noted above, claim 81 has been canceled and its limitations have been incorporated in amended independent claim 79. To the extent that the above-stated rejection now applies to claims 79 and 82, Applicant notes that Chopra is not a valid prior art reference and should be excluded under 35 U.S.C. § 103. Applicant submits that the earliest effective filing date of the present application is March 21, 2000. Chopra was filed on March 3, 2000 and issued on September 2, 2003. Chopra thus qualifies as prior art under 35 U.S.C. § 102(e). In addition, the subject matter of Chopra and of the claimed invention were, at the time the invention was made, subject to an obligation of assignment to the same entity: Micron Technology, Inc. The Assignment for this application was recorded in the PTO on March 21, 2000 on Reel 010643, Frame 0559. The Assignee of Chopra is shown on the face of the reference. Therefore, section 35 U.S.C. § 103(c) applies. According to MPEP § 706.02(l)(1), "[e]ffective November 29, 1999, subject matter which was prior art under former 35 U.S.C. 103 via 35 U.S.C. 102(e) is now disqualified as prior art against the claimed invention if that subject matter and the claimed invention 'were, at the time the invention was made, . . . subject to an

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obligation of assignment to the same person.'" Accordingly, Chopra is not a valid prior art reference and should be excluded under 35 U.S.C. § 103.

Allowance of the application is solicited.

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Respectfully submitted,

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